

## **ABSTRACT OF THE DISCLOSURE**

Embodiments of the invention include a universal apparatus for incorporating intelligence into the distribution frame of an optical communication system. The communication system includes a distribution frame with one or more distribution shelves having one or more interconnection panels, and a universal operations, administration and maintenance (OA&M) apparatus attached to the distribution frame. The OA&M apparatus, which is operably connected to the interconnection panels and the distribution frame's system controller through an interface, monitors current interconnection panel connections including cross-connections and can indicate future possible cross-connections between interconnection panels. The OA&M apparatus also is useful for jumper routing, circuit administration, and other features associated with the distribution frame and its fiber connections.